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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,255	10/13/2006	Leonard Fredrick Williams	0148 / 429US	5812

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EXAMINER	
VALENTIN, JUAN D	

ART UNIT	PAPER NUMBER
2877	

MAIL DATE	DELIVERY MODE
01/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,255	WILLIAMS ET AL.	
	Examiner	Art Unit	
	JUAN D. VALENTIN	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/30/06 & 7/26/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 30 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 30 depends from itself, it is believed to be dependent from claim 29, examiner will examine claim 30 as if it depended from claim 29.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 recites the limitation "the detectors" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 1 discloses at least one detector, therefore there are not multiple detectors claimed, applicant is asked to please clarify the claim language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9 and 17-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Dean et al. (EP 1061356 A2 from applicants IDS, hereinafter Dean) in view of Watson et a. (GB 2340936 A from applicants IDS, hereinafter Watson).

Claims 1- 9, 22

Dean discloses an apparatus for detecting presence of transient particulate in gas within a duct ([000—0002] and [0011]), said apparatus comprising at least one emitter (claim 2 and 4, [0023]), of illumination selected from infra-red, ultraviolet and visible radiation capable of being projected over essentially the entire cross section of the duct and at least one detector (claims 6-9, photodiode array) for detecting any sparkle of the illumination from the particulate ([0012-0016]). Dean teaches the use of a photodiode array ([0024]), which one of ordinary skill in the art would realize performs the same function as a charge coupled device (CCD) camera as well as that of a phototransistor. There is nothing critically distinguishing about the detection device within applicant's specification that discloses the use of a transistor or CCD camera exemplifies novelty over that of prior art disclosure, the photodiode array of Dean performs the same function and it would have been obvious of one of ordinary skill in the art at the time of the claimed invention to substitute freely between the different detection devices for the purpose of detecting particles in a fluid.

Dean substantially teaches the claimed invention except that it fails to show the illumination wavelength in the range of 460nm-680nm. Watson shows that it is known to provide illumination in the wavelength range claimed (claims 1, 3, 5, 22, page 1, line 25-page 3, line 24) for an particle size measurement apparatus. It would have been obvious to someone of

ordinary skill in the art to combine the device of Dean with the illumination wavelength range of Watson for the purposes of providing light scattering from a specific particulate under test.

Claims 17-21

Dean teaches the sensor can be placed near an inlet and/or outlet of an industrial process, either upstream of a flow direction or downstream of a flow direction depending on placement (Fig. 2, [0011, 0022]).

4. Claims 1-12 and 17-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (EP 0618440 A1, hereinafter Rao) in view of Watson et a. (GB 2340936 A from applicants IDS, hereinafter Watson).

Claims 1-12, 22, 23, 28-30

Rao discloses an apparatus for detecting presence of transient particulate in gas within a duct (col. 1, lines 52-59, col. 3, line 57-col. 4, line 30, col. 5, lines 25-35), said apparatus comprising at least one emitter where the illumination is fanned by a optical lens (claims 2, 10, 12, col. 8, lines 15-29), of illumination selected from infra-red, ultraviolet and visible radiation capable of being projected over essentially the entire cross section of the duct and at least one detector fanned by a line generator (claims 6-9, 11, solid state photodetector) for detecting any sparkle of the illumination from the particulate after the process flow has been though an abatement system in environmental industry (i.e., hospitals or energy stations, claims 23, 28-30, col. 9, lines 31-58, col. 1, lines 22-31).

Rao substantially teaches the claimed invention except that it fails to show the illumination wavelength in the range of 460nm-680nm. Watson shows that it is known to

provide illumination in the wavelength range claimed (claims 1, 3, 5, 22, page 1, line 25-page 3, line 24) for an particle size measurement apparatus. It would have been obvious to someone of ordinary skill in the art to combine the device of Rao with the illumination wavelength range of Watson for the purposes of providing light scattering from a specific particulate under test.

Claims 17-21, 24-27, 30

Rao teaches the sensor can be placed near an inlet and/or outlet of an industrial process to ensure the creation of a clean room environment, either upstream of a flow direction or downstream of a flow direction depending on placement (col. 9, lines 15-57).

5. Claims 13-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of Watson and further in view of Nakano et a. (USPAPN 2001/0016430 from applicant's IDS, hereinafter Nakano).

Claims 13-16

Rao substantially teaches the claimed invention except that it fails to show scanning a specific frequency illumination light using a rotating mirror to illuminate a process stream through an observation window and detecting the measurement light with a frequency matched detector. Nakano shows that it is known to provide scanning a specific frequency illumination light using a rotating mirror to illuminate a process stream through an observation window and detecting the measurement light with a frequency matched detector ([0061-0069]) for an particle size measurement apparatus. It would have been obvious to someone of ordinary skill in the art to combine the device of Rao with the scanning of frequency matched illumination light for the purposes of measuring fine particles within a process chamber (Nakano, abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUAN D. VALENTIN whose telephone number is (571)272-2433. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory J. Toatley, Jr./
Supervisory Patent Examiner, Art Unit 2877
12/21/2008

Juan D Valentin II
Examiner
Art Unit 2877

/JDVII/
December 18, 2008